

CAR ALERT SYSTEM

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"I declare that this report entitle "Car Alert System" is the result of my own group research except as cited in the references. The report has not been accepted for any degree and is cot concurrently submitted in candidature of any other degree."

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In the name of ALLAH S.W.T, Most gracious and Most merciful

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ABSTRACT

Car Alert System uses the same concept as Car Parking Sensor. It adopts infra-red to measure the distance between the car and the obstacles such as other car from behind and alerting the driver of safe distance accurately when on the road. This circuit was designed as an aid in to alert the driver about the car approaching behind them. In this manner, we were alerted when the car behind us approaching too close. The buzzer from the circuit will buzz if there is obstacle near the car with the Car Alert System.

IC555 forms an oscillator driving the infra-red LED by means of 0.8 millisecond pulses at 120 Hertz frequency and about 300 mA peak current. Two diodes are placed facing the car on the same line, a couple of centimeters apart about 2 cm, on a bumper of the car. One of them picks up the infra-red beam generated by and reflected by the surface placed in front of it.

The signal is amplified by IC2A and peak detected by D4 & C4. Diode D3 with R5 & R6, compensates for the forward diode drop of D4. A DC voltage proportional to the distance of the reflecting object and D1 & D2 feeds the inverting inputs of three voltage comparators. These comparators switch on and off the LEDs referring to voltages at their non-inverting inputs set by voltage divider resistor chain R7-R10.

All distances mentioned before can vary depending on infra-red transmitting and receiving LEDs used and mostly affected by the color of the reflecting surface. Black surfaces lower greatly the device sensitivity. However, we can use this in circuit in other applications for example in liquid level detection devices etc.

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